United States Environmental Protection Agency

EPA Proposes Cleanup Plan At Former Zinc Smelter

Matthiessen & Hegeler Zinc Site
LaSalle, Illinois September 2015

Share your opinion

EPA invites your comments on the proposed cleanup plan for the Matthiessen & Hegeler site.

The public comment period is **Oct. 5 – Nov. 2**. There are several ways to comment:

- Orally or in writing at the public meeting.
- Fill out and mail the enclosed comment form, or submit it at the meeting.
- By fax to Teresa Jones at 312-692-2007
- By email to Teresa Jones at jones.teresa@epa.gov

Read the proposed plan

You may review the detailed cleanup plan at the information repository:

LaSalle Public Library, 305 Marquette St., LaSalle; U.S. EPA Record Center, 77 W. Jackson Blvd., 7th Floor, Chicago; or for more information please search for Matthiessen & Hegeler Zinc online at www.epa.gov.

Public meeting

EPA encourages you to attend the public meeting, **Tuesday**, **Oct. 20, at 7 p.m.** at LaSalle Peru Township High School, 541 Chartres St., LaSalle.

EPA will accept oral comments at the public meeting. A court reporter will record all oral comments.

See a list of EPA contacts on Page 3.

A worker sprays water on a building to help reduce the dust from demolition at the Matthiessen & Hegeler Zinc site.

The U.S. Environmental Protection Agency plans to clean up contaminated soil at the Matthiessen & Hegeler Zinc site and in the surrounding residential area. This soil is contaminated mostly with metals. U.S. EPA plans to dig up contaminated soil and put it into what EPA calls a "containment cell" on the former smelter site.

Complex sites like this one are often broken down into smaller manageable sections called operable units, or OUs. At this site, OU1 consists of the Carus Chemical Corp. and a large slag pile, while OU2 consists of the former Matthiessen & Hegeler Zinc Co. and the surrounding residential area. EPA has identified its recommended cleanup alternatives for each OU.[1]

Before making a final decision, U.S. EPA will hold a public meeting and seek comments from the public (*see box, left*). The Agency, in consultation with the Illinois EPA, may select a different cleanup alternative based on public comments, so your opinion is important.

[1]*Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA known as the Superfund law) requires publication of a notice and a proposed plan. It also requires a public comment period and the opportunity for a public meeting. This fact sheet summarizes the technical written proposed plan and other site-related environmental reports that can be viewed at the LaSalle Public Library, 305 Marquette St., LaSalle; and the U.S. EPA office in Chicago.*

OU1 site characteristics

OU1 covers approximately 47 acres and includes the southern portion of the site and the Little Vermilion River adjacent to the site. Carus Chemical Corp. operates a facility on the site that produces potassium permanganate and other specialty chemicals. A large slag pile generated from smelting operations on OU2 is mostly located on the Carus property.

OU2 site characteristics

OU2 covers approximately 180 acres that includes the industrial portion of the former Matthiessen & Hegeler Zinc Co. property, as well as the nearly 5,000 properties in the surrounding residential area in the LaSalle/Peru area. The smelting plant ceased operations in 2000.

LaSalle obtains all its drinking water from a cluster of four wells located three-quarters of a mile south of the site, with the nearest municipal well approximately 3,700 feet south of the site. There is a wetland approximately two miles upstream of the site on the river. Also, the Lake DePue State Fish and Wildlife Area and the Spring Lake Heron Colony, which provides breeding habitat for the state-endangered great egret, are about 15 miles downstream of the site.

Nature and extent of contamination

The site was placed on the National Priorities List in September 2003 because of the widespread slag across the site that has metals contamination, including arsenic and lead. The NPL is a list of the nation's most hazardous waste areas and are eligible for cleanup under the Superfund program.

Human health risks

People who could be exposed to Matthiessen & Hegeler pollutants in the soil include residents in the surrounding community, employees of Carus Chemical, utility workers and construction workers at the site, children playing in the area, and people walking through the site.

Experts found there were no significant adverse effects on the overall health of the ecological community in the Little Vermillion River.

The recommended cleanup alternatives in the proposed plan are designed to protect people and the environment from these potential health threats.

OU1 history

Carus Corp. makes specialty chemicals in its facility in OU1, which is independent of the former Matthiessen & Hegeler Zinc Co. facilities.

Carus began operations in 1915, manufacturing potassium permanganate products for water purification and wastewater treatment. The company has added other products to its manufacturing operations over time.

From 1858 to 1961, sinter and slag from the smelting operations at OU2 were placed at various locations on what is now designated as OU1, primarily in an upland area between the Carus facility and the river. The resultant slag pile covers an area of approximately 17.7 acres and stands approximately 80 to 90 feet tall.

Carus did not own the slag pile area during the OU2 zinc smelting operational period.

A worker inspects an old pipe extending above the ground within the former zinc smelting plant.

OU2 history

The Matthiessen & Hegeler Zinc Co. operated a zinc smelter at the OU2 portion of the site from 1858 until 1961. The company added a rolling mill to its operations in 1866 to produce zinc sheets. This process included a furnace that used producer gas as fuel. Any sulfur dioxide generated was recovered and converted into sulfuric acid and stored in on-site tanks.

For a few years during the early 1950s, an ammonium sulfate fertilizer plant operated at OU2. Coal mining also occurred on OU2 until 1937, and two mining shafts (one vertical and one horizontal) still remain at the site. Zinc smelting ceased in 1961, and sulfuric acid manufacturing halted in 1968, when Matthiessen & Hegeler declared bankruptcy. Only basic rolling mill operations took place at OU2 from 1968 until 1978.

In 1980, Fred and Cynthia Carus purchased the 12-acre rolling mill tract of land, which became home to the LaSalle Rolling Mill Inc. The mill made penny blanks for the U.S. Mint until 2000, when the company ceased operations and declared bankruptcy.

This material is called sinter, which – along with debris and abandoned structures – remains at the former smelting site.

Summary of cleanup alternatives

U.S. EPA considered numerous options for cleaning up both OU1 and OU2. The recommended options are summarized here. For a listing of all of the alternatives evaluated, refer to the technical proposed plan, which is available in the technical documents on file at the LaSalle Public Library or please search for Matthiessen & Hegeler Zinc online at www.epa.gov.

EPA's recommended cleanup alternatives

OU1: Carus Plant Area

Alternative 6 — *Soil Cover.* Approximately 4,600 cubic yards of contaminated soil across the area would be dug up and removed with an engineered soil cover installed to isolate Carus workers from the soil. **Cost: $1.67 million**

OU1: Slag Pile Area

Alternative 6 — *Soil Cover.* An estimated 50,000 cubic yards of engineered soil, 18 inches thick, would be placed to cover the slag pile and prevent people from being exposed. **Cost: $7.1 million**

Alternative 15—*Sloping and Benching + Plantings + Revetments at the Toe of the Slope + Best Management Practices.*

Vegetation would be removed from the slag pile, which would then be excavated, sloped and benched along the river, and a two-foot-thick engineered soil cover installed. Revetments *(a retaining wall)* would be installed at the toe of the slope for erosion protection along the river, and best management practices, including seeding for the soil cover, would be installed to help stabilize the slope of the pile. The two-foot cover would be sufficient to support the anticipated tree root depth. **Cost: $18.4 million**

Contact EPA

These EPA representatives are available to answer questions and share information. If you need special accommodations at the Oct. 20 meeting, contact Teresa Jones.

For technical questions:
Demaree Collier
Remedial Project Manager
312-886-0214
collier.demaree@epa.gov

For general questions:
Teresa Jones
Community Involvement Coordinator
312-886-0725
jones.teresa@epa.gov

Call EPA toll-free 800-621-8431, 8:30 a.m. to 4:30 p.m., weekdays.

OU2: Main Industrial Area
Alternative 2 — *Soil Excavation + On-Site Consolidation Under a Soil Cover*.
Parts of the Main Industrial Area with higher than acceptable soil contamination levels would be excavated and consolidated on-site. Any hazardous soil would be treated before being consolidated. Land-use restrictions and property access restrictions would be implemented to protect workers, to ensure the land use remains commercial/industrial and to protect the cleanup.
Cost: $34.9 million

OU2: North Area
Alternative 4 — *Soil Excavation + On-Site Consolidation Under a Soil Cover*.
Parts of the North Area with higher than acceptable soil contamination levels would be excavated and consolidated at the Main Industrial Area. Land-use restrictions and property access restrictions would be implemented to ensure the land use remains commercial/industrial. **Cost: $19.6 million**

OU2: Building 100 Area
Alternative 3 — *Soil Excavation + On-Site Consolidation Under a Soil Cover*.
Parts of the Building 100 Area with higher than acceptable soil contamination levels would be excavated and consolidated at the Main Industrial Area. Land-use restrictions and property access restrictions would be implemented to ensure the land use remains commercial/industrial. **Cost: $4 million.**

OU2: Rolling Mill Area
Alternative 3— *Soil Excavation + On-Site Consolidation Under a Soil Cover*.
Parts of the Rolling Mill Area with higher than acceptable soil contamination levels would be excavated and consolidated at the Main Industrial Area. Land-use restrictions and property access restrictions would be implemented to ensure the land use remains commercial/industrial. **Cost: $4.5 million.**

OU2: Off-Site Residential Area
Alternative 3— *Soil Excavation + On-Site Consolidation Under a Soil Cover*.
Contaminated soil at affected properties in the Off-site Residential Area would be excavated to a maximum depth of 24 inches and consolidated at the Main Industrial Area. If contamination remains in place deeper than 24 inches, a visual barrier would be installed on top of the underlying contamination prior to backfilling with clean soil. Land-use restrictions would be implemented as appropriate. **Cost: $113 million.**

Explanation of evaluation criteria

U.S. EPA compares each cleanup option or alternative with these nine criteria established by federal law:

1. Overall protection of human health and the environment examines whether an option protects both human health and the environment. This decisive factor can be met by reducing or removing pollution or by reducing exposure to it.

2. Compliance with applicable or relevant and appropriate requirements ensures options comply with federal and state laws.

3. Long-term effectiveness and permanence evaluates how well an option will work over the long term, including how safely remaining contamination can be managed.

4. Reduction of toxicity, mobility, or volume through treatment determines how well the treatment option reduces the amount and movement of contamination.

5. Short-term effectiveness compares how quickly an option can help the situation and how much risk exists while the option is under construction.

6. Implementability evaluates how practical the option is, and whether materials and services are available.

7. Cost includes not only buildings, equipment, materials and labor, but also the cost of operating and maintaining the cleanup for the life of the project.

8. State acceptance determines whether the state environmental agency accepts the option.

9. Community acceptance is considered by evaluating the oral and written public comments on the proposed plan and alternatives.

Comparing EPA's recommended cleanup alternatives with the nine Superfund cleanup selection criteria.

Evaluation Criteria	OU1 Exposure Areas - Alternatives (*Carus Chemical Company & Large Slag Pile*)		
	Alt-6: Carus Plant Area	**Alt-6: Slag Pile Area**	**Alt-15: Slag Pile Area**
Overall Protection of Human Health and the Environment	●	●	●
Compliance with ARARs	●	●	●
Long-term Effectiveness and Permanence	●	●	●
Reduction of Toxicity, Mobility, or Volume Through Treatment	○	○	○
Short-term Effectiveness	●	●	●
Implementability	●	●	●
Capital Cost	$1.67 million	$7.1 million	$18.4 million
State Acceptance	These criteria will be evaluated after the public comment period.		
Community Acceptance			

Evaluation Criteria	OU2 Exposure Areas - Alternatives (*Matthiessen & Hegeler Zinc Company & Residential Area*)				
	Alt-2: Main Industrial Area	**Alt-4: North Area**	**Alt-3: Building 100 Area**	**Alt-3: Roll Mill Area**	**Alt-3: Off-Site Residential**
Overall Protection of Human Health and the Environment	●	●	●	●	●
Compliance with ARARs	●	●	●	●	●
Long-term Effectiveness and Permanence	●	●	●	●	●
Reduction of Toxicity, Mobility, or Volume Through Treatment	○	○	○	○	○
Short-term Effectiveness	●	●	●	●	◉
Implementability	●	●	●	●	●
Capital Cost	$34.9 mil.	$19.6 mil.	$4.0 mil.	$4.5 mil.	$113 mil.
State Acceptance	These criteria will be evaluated after the public comment period.				
Community Acceptance					

● Fully meets criterion ◉ Partially meets criterion ○ Does not meet criterion

How do the alternatives compare?

U.S. EPA compared each alternative against seven of the nine evaluation criteria (*see comparison chart, Page 5)* and selected its recommended alternative. State and community acceptance will be evaluated after a review of public comments on the proposed plan.

Summary of cleanup goals

U.S. EPA has several objectives for this cleanup. They were developed while the alternatives were being evaluated and include the following:

OU1

Minimize or reduce the potential for someone to ingest, inhale, or touch contaminants in affected parts of the Carus Plant Area and the Slag Pile Area that could be harmful to human health.

Reduce surface water runoff and erosion of material from the Slag Pile slope to prevent any unacceptable risks to human health or the environment, and to protect the viability of the cleanup.

OU2

Site Property Soils (Main Industrial Area, Rolling Mill Area, North Area, Wooded Area-Northeast, Building 100 Hot Spot):

Minimize or reduce the potential for someone to ingest, inhale or touch soil that contains metals, PCBs, PAHs or asbestos.

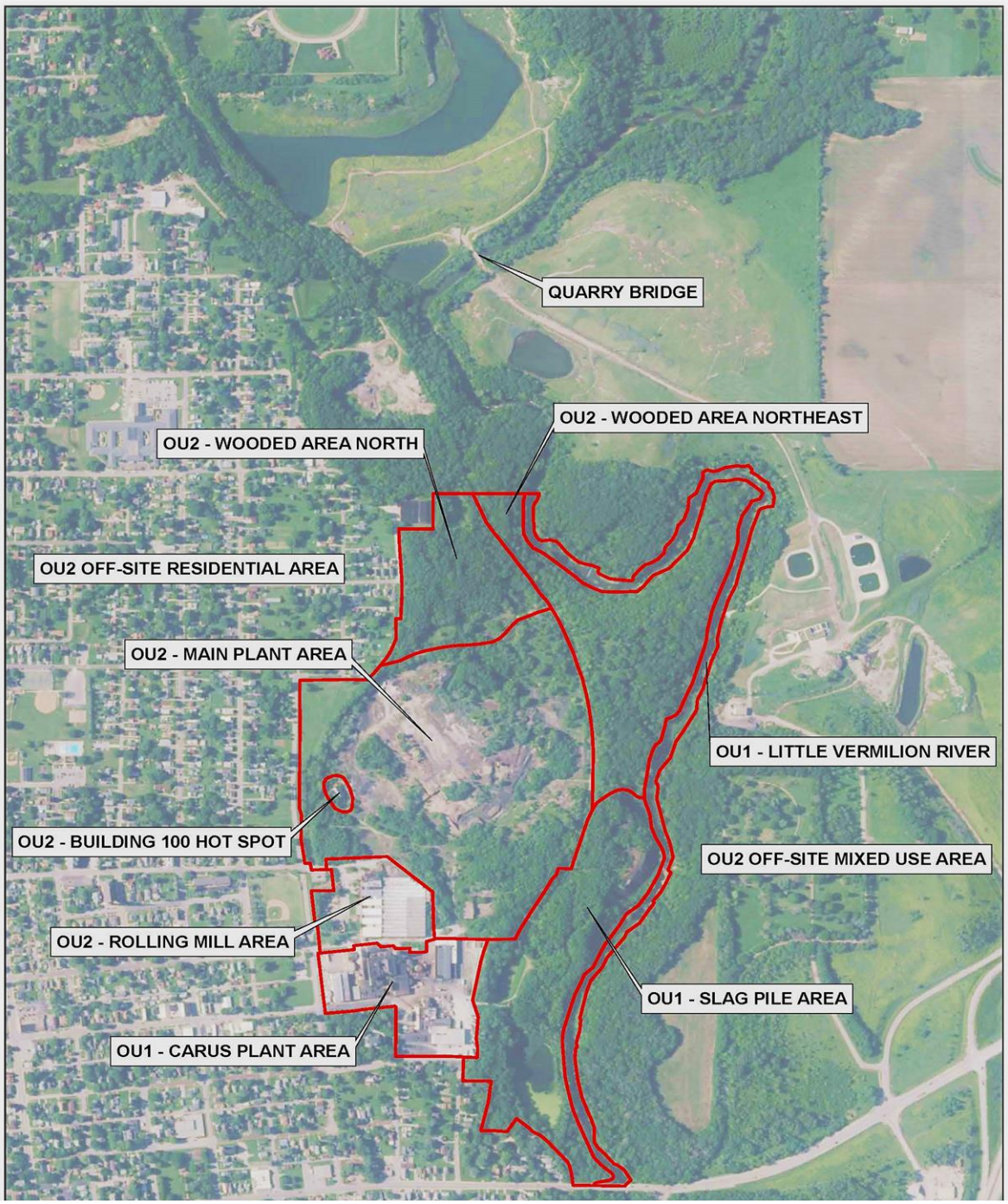
Off-Site Residential Area: Prevent people from ingesting, inhaling or touching affected soil at residential properties that contains contaminants of concern.

Next steps

Before making a final decision, U.S. EPA will review all comments from the public. The Agency will respond to the comments and make those responses available in the final decision document. U.S. EPA could change its recommended cleanup plan based on public comments and its consultation with Illinois EPA.

The Agency will announce its final cleanup plan in a local newspaper advertisement. Copies of the final plan will be available at the LaSalle Public Library, in the EPA Records Center in Chicago and for more information please search for Matthiessen & Hegeler Zinc online at www.epa.gov.

Some of the abandoned structures and debris remaining at the former zinc smelter.



The various parts of the Matthiessen & Hegeler site can be seen here.

United States
Environmental Protection
Agency

Region 5
Superfund Division (SI-7J)
77 W. Jackson Blvd.
Chicago, IL 60604-3590

First Class Mail
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EPA
Permit No. G-35

MATTHIESSEN & HEGELER ZINC SITE:
EPA Proposes Cleanup Plan for Contaminated Soil

EPA Proposes
Soil Cleanup Plan
for

Matthiessen & Hegeler Zinc Site
LaSalle, Illinois
(details inside)

Attend an information session and public meeting to find out more about the recommended cleanup plan and to provide your comments to EPA.

Tuesday, Oct. 20, 7 p.m.
LaSalle Peru Township High School
541 Chartres St.
LaSalle